

SECTION 08334
OVERHEAD COILING GRILLES

PART 1 - GENERAL

0.1 DESCRIPTION OF WORK

- A.** Work Included: This Section specifies the following items:
1. Manually-operated overhead coiling grilles.
 2. Electric-motor-operated overhead coiling grilles.
- B.** Items To Be Installed Only: Install the following items as furnished by the designated Sections:
1. Section 08711 - DOOR HARDWARE:
 - a. Lock cylinders.
- C.** Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 05500 - MISCELLANEOUS METALS; miscellaneous steel supports.
 2. Section 07920 - JOINT SEALANTS; weatherproof joints at hoods.
 3. Section 08711 - DOOR HARDWARE; lock cylinders and keying.
 4. Section 09900 - PAINTING; field-applied paint finish.
 5. Division 16 - ELECTRICAL; electrical service and connections for powered operators, and accessories.

0.2 PERFORMANCE REQUIREMENTS

- A.** Operation-Cycle Requirements: Provide overhead coiling grille components and operators capable of operating for not less than 20,000 cycles and for 10 cycles per day.

0.3 SUBMITTALS

- A.** Product Data: For each type and size of overhead coiling grille and accessory.
1. Summary of forces and loads on walls and jambs.
- B.** Shop Drawings: For special components and installations not dimensioned or detailed in manufacturer's product data.

- C. Qualification Data: For Installer.

0.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain overhead coiling grilles through one source from a single manufacturer.
 - 1. Obtain operators and controls from overhead coiling grille manufacturer.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100.

PART 2 - PRODUCTS

0.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Overhead Door Corp.
 - 2. Raynor.
 - 3. Wayne-Dalton Corp.

0.2 GRILLE CURTAIN MATERIALS AND CONSTRUCTION

- A. General: Fabricate overhead coiling grille curtain consisting of a network of 1/4-inch-minimum diameter horizontal rods, or rods covered with tube spacers, spaced as indicated. Interconnect rods by vertical links approximately 5/8 inch wide, spaced as indicated and rotating on rods.
 - 1. Space rods at approximately 1-1/2 inches o.c.
 - 2. Space links approximately 6 inches apart in a straight in-line pattern.
 - 3. Aluminum Grille Curtain: ASTM B 221 alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- B. Endlocks: Continuous end links, chains, or other devices at ends of rods; locking and retaining grille curtain in guides against excessive pressures, maintaining grille curtain alignment, and preventing lateral movement.

- C.** Bottom Bar: Manufacturer's standard continuous channel, tubular shape, or two angles, finished to match grille.
 - 1. Astragal: Provide a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene; for placement between angles or fitted to shape, as a cushion bumper for grille.
 - 2. Provide motor-operated grilles with combination bottom astragal and sensor edge.
- D.** Grille Curtain Jamb Guides: Manufacturer's standard extruded-aluminum shape having curtain groove with return lips or bars to retain curtain. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise; with removable stops on guides to prevent overtravel of curtain.

0.3 HOODS AND ACCESSORIES

- A.** Hood: Form to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Provide closed ends for surface-mounted hoods, and provide fascia for any portion of between-jamb mounting projecting beyond wall face. Provide intermediate support brackets as required to prevent sagging.
 - 1. Fabricate hoods for aluminum grilles of minimum 0.032-inch-thick aluminum, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, complying with ASTM B 209.
 - 2. Provide removable metal soffit of same material and finish as curtain if hood is mounted above ceiling, unless otherwise indicated.
- B.** Push/Pull Handles: For push-up-operated or emergency-operated grilles, provide manufacturer's standard lifting handles on each side of grille.
- C.** Fabricate locking device assembly with lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bar to engage through slots in tracks. Lock cylinder is specified in Section 08711 - DOOR HARDWARE.
- D.** If grille curtain is power operated, provide safety interlock switch to disengage power supply when grille is locked.

0.4 COUNTERBALANCING MECHANISM

- A.** General: Counterbalance grille curtain by means of adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to grille curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

- B.** Counterbalance Barrel: Fabricate spring barrel of hot-formed, structural-quality, welded or seamless carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up grille curtain without distortion of curtain and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.
- C.** Provide spring balance of one or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of grille curtain, with uniform adjustment accessible from outside barrel. Provide cast-steel barrel plugs to secure ends of springs to barrel and shaft.
- D.** Fabricate torsion rod for counterbalance shaft of cold-rolled steel, sized to hold fixed spring ends and carry torsional load.
- E.** Brackets: Provide mounting brackets of manufacturer's standard design, either cast iron or cold-rolled steel plate.

0.5 MANUAL GRILLE OPERATORS

- A.** Push-up Operation: Design counterbalance mechanism so required lift or pull for grille operation does not exceed 25 lbf .

0.6 ELECTRIC GRILLE OPERATORS

- A.** General: Provide electric grille operator assembly of size and capacity recommended and provided by grille manufacturer for grilles specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, remote-control stations, control devices, integral gearing for locking grille, and accessories required for proper operation.
- B.** Comply with NFPA 70.
- C.** Disconnect Device: Provide hand-operated disconnect or mechanism for automatically engaging chain and sprocket operator and releasing brake for emergency manual operation while disconnecting motor, without affecting timing of limit switch. Mount disconnect and operator so they are accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.
- D.** Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency auxiliary operator.
- E.** Provide control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V, ac or dc.
- F.** Grille-Operator Type: Provide wall-, hood-, or bracket-mounted, jackshaft, gear-head-type grille operator unit consisting of electric motor, enclosed

worm-gear running-in-oil primary drive, and chain and sprocket secondary drive; with quick disconnect-release for manual operation.

- G.** Electric Motors: Provide high-starting torque, reversible, continuous-duty, Class A insulated, electric motors complying with NEMA MG 1; with overload protection; sized to start, accelerate, and operate grille in either direction from any position, at not less than 2/3 fps and not more than 1 fps, without exceeding nameplate ratings or service factor.
 - 1. Type: Polyphase, medium-induction type.
 - 2. Service Factor: According to NEMA MG 1, unless otherwise indicated.
 - 3. Coordinate wiring requirements and electric characteristics of motors with building electrical system.
- H.** Remote-Control Station: Provide momentary-contact, three-button control station with push-button controls labeled "Open," "Close," and "Stop."
 - 1. Provide interior units, full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.
- I.** Obstruction Detection Device: Provide each motorized grille with indicated external automatic safety sensor capable of protecting full width of grille opening. Activation of sensor immediately stops and reverses downward grille travel.
- J.** Limit Switches: Provide adjustable switches, interlocked with motor controls and set to automatically stop grille at fully opened and fully closed positions.
- K.** Provide electric operators with ADA-compliant audible alarm and visual indicator lights.

0.7 FINISHES, GENERAL

- A.** General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B.** Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

0.8 ALUMINUM FINISHES

- A.** Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B.** Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 611.

PART 3 - EXECUTION

0.1 INSTALLATION

- A.** General: Install grilles and operating equipment, complete with necessary hardware, according to Shop Drawings, manufacturer's written instructions, and as specified.

0.2 ADJUSTING

- A.** Lubricate bearings and sliding parts; adjust grilles to operate easily, free of warp, twist, or distortion and with tight fit around entire perimeter.

PART 4 - MEASUREMENT AND PAYMENT

0.1 MEASUREMENT

- A.** Overhead coiling grilles will be measured as per each complete in place, including all preparation, hardware, accessories and incidentals.

0.2 PAYMENT

- A.** Payment for overhead coiling grilles will be made at the Contract unit price for the quantities as specified above.

0.3 PAYMENT

ITEM NO.	DESCRIPTION	UNIT
0836.100	ROLLING METAL GRILLE	EA

END OF SECTION